

REMARKS

This application has been reviewed in light of the Office Action dated November 27, 2006. Claims 1-50 and 53-104 remain pending. Claims 1, 3-5, 7, 11, 13-15, 20, 23, 26, 28, 33, 37, 41-43, 53, 55, 62, 65, 69, 71, 73, 74, 76, 79, 87, 93, and 98 are in independent form. Claims 98-104 have been withdrawn from consideration. Favorable reconsideration is requested.

Initially, the Examiner confirmed on December 4, 2006 that the Office Action is non-final, even though section 4 of the Office Action states that the Office Action is final. See Interview Summary dated December 21, 2006.

The Office Action does not treat Claims 33-36 on the merits. Accordingly, any next Office Action must be made non-final.

The Office Action objected to Claim 42 as depending from a rejected base claim. However, Claim 42 was rewritten in independent form in the Amendment filed May 1, 2006, in response to an objection of that claim as being dependent on a rejected base claim in the Office Action dated November 30, 2005. Accordingly, Claim 42 is in allowable form. If the Examiner disagrees, she is respectfully requested to provide her reasoning.

The Office Action requires restriction between the following allegedly patentably distinct groups of claims:

1. Group I, directed to managing and configuring components associated with routing as associated in a switch fabric environment; and

2. Group II, directed to synchronizing transmissions.

The Office Action constructively elected Group I (claims 1-32, 37-50, and 53-97). Applicants acknowledge this election without traverse.

Claims 1-32, 37-40, 43-50, and 53-97 have been allowed. The Examiner is sincerely thanked for that indication.

Claim 41 was rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,657,983 (Surazski et al.) in view of U.S. Patent 6,219,352 (Bonomi et al.).

Claim 41 is directed to a method comprising receiving a plurality of cells associated with a first time slot, each cell from the plurality of cells being uniquely associated with its own cell framer and its own receipt time. Next steps include buffering cells from the plurality of cells as they are received until every one of the plurality of cells is received, and sending the plurality of cells substantially aligned in time, only after every cell from the plurality of cells is received within a timeout period, and not before all of the plurality of cells have been received.

The Office Action cites Surazski et al. as disclosing "scheduling and managing routing of ATM data in a communication system, wherein the architecture includes plurality of cells that make up a frame/packet accompanied by mini-slots (timeslots) time received/arrival time, and burst packets/frame (plurality of cells) are received (every cell/burst) in a specific scheduling period and received burst packet is transmitted with timeslot and timestamp in a specified scheduling period (substantially aligned time), output cells associated with burst packet are coupled to a frame

module/framer for further cell processing (Abstract, Figs. 9, 11, 12, col. 2, line 56-57, col. 4, line 12-30, col. 5, line 23-45, line 54-67, col. 6, line 35-28, col. 9, line 22-45)."

The Office Action concedes that "Surazski is silent on buffering a plurality of cells until every one of the plurality of cells is received."

The portions of Surazski et al. relied on in the Office Action relate to the following.

Surazski et al.

Col. 2, lines 56-67 and Col. 3, lines 1-5 refer broadly to a method of allocating bandwidth in a communications system, including receiving actual arrival times associated with respective data units and determining, as a function thereof, a number of data units expected to have actual arrival times in a time interval beginning after the most recently received actual arrival time. Sufficient bandwidth is allocated to transmit the expected number of data units.

Col. 4, lines 13-30 refers broadly to a communications device, including a frame create module operable to receive data units from a data unit generation module, to determine arrival time information associated with each data unit, to organize the data units into frame and to encode the frame with the arrival time information of each data unit so organized. A burst create module arranges a burst packet to fit into a specified set of time slots and transmits the burst packet in the specified set of time slots in the specified scheduling period.

Col. 5, lines 23-45 and 54-67 refers to a transmission time in the upstream (CPE to BTS) direction being subdivided into contiguous scheduling periods of equal duration, with each scheduling period preferably having a length of 1 millisecond (ms), although other durations are possible, where the BTS and CPE units share a synchronized time base. Thus, the beginning (and end) of each scheduling period is known to the BTS 105 and each CPE unit.

During each scheduling period, each CPE unit 112 transmits one so-called "burst packet" to the BTS 105.

Fig. 2 shows the relationship between the timing of a control message transmitted by the BTS 105 and the scheduling period managed by that control message and shows how transmission time is separated into contiguous scheduling periods SP_1 - SP_6 of equal duration, beginning at times T_0 - T_5 , respectively, and ending at times T_1 - T_6 , respectively.

Col. 9, lines 22-45 refers to a frame create module 330 determining the arrival time of the new ATM cell as given by an internal system clock synchronized to a common time reference. The frame create module 330 then time stamps the received ATM cell with this arrival time. Time stamping is allegedly achieved by encoding the arrival time of the cell into its header.

The frame create module 330 determines whether it is time to create a frame when the current scheduling period has ended. If the time to create a frame has been reached, then the frame create module 330 proceeds to step 560; otherwise, it stores the

most recently received and time stamped ATM cell in a local buffer and returns to step 510. The frame create module 330 also concatenates the most recently received and time stamped ATM cell with the contents of the buffer and creates a frame, such as a medium access control (MAC) frame.

Bonomi et al.

Bonomi et al. is cited in the Office Action as teaching a “switch environment supporting efficient transmission of frames wherein managing of cell routing is implemented, wherein the architecture includes a plurality of cells being received (cells in frame), and ATM switch buffers all cells of a frame until the last cell of a frame is received, then transmits the whole frame as associated with scheduling (substantially aligned in time) (Abstract, col. 5, line 25-47).”

As pointed out in the prior-filed Response After Final Rejection, the Abstract of Bonomi et al. refers to a cell received on a multicast connection and transmitted on several branches/ports. Instead of copying a multicast call several times for each output branch, only one copy of each multicast cell is maintained. The cell order and the stored cell data form a physical queue, and several logical queues are maintained, one for each output branch. In one embodiment, linked lists are used to maintain the queues. A cell in a physical queue is deleted after all logical queues traverse that cell. A shared tail pointer is used for all the logical queues to minimize additional processing and memory requirements due to the usage of logical queues. The queues enable cells forming a frame to be buffered until the end of frame cell is received, which provides for efficient handling of frames.

Col. 5, line 25-47 of Bonomi et al. refers to maintaining a same mask and drop count for all cells of a frame to allow an ATM switch to buffer all cells of a frame until the last cell of a frame is received, and then transmits the whole frame to a consistent set of branches. All the cells may then be transmitted in quick succession. That portion of Bonomi et al. also refers to cells of any incompletely received frames being flushed. If an end-of-frame cell is not received, cells of the partial frame are deleted without transmission on branches.

The Cited References Do Not Teach Or Suggest the Features Of Claim 41

In support of the rejection of Claim 41, the Office Action states that “it would have been obvious . . . to implement buffering a plurality of cells until every cell (burst/frame) is received as taught by Bonomi with the teachings of Surazski for the purpose of further managing cell routing, improving transmission speed and increasing throughput.”

However, nothing in either Surazski et al. or Bonomi et al. would teach or suggest buffering cells from a plurality of cells associated with a first time slot as they are received until every one of the plurality of cells is received, and sending the plurality of cells *substantially aligned in time*, only after every cell from the plurality of cells is received *within a timeout period*, and not before all of the plurality of cells have been received, as set forth in Claim 41. Indeed, Surazski et al. refers merely to a transmission time separated into contiguous time periods, time stamping a cell with its arrival time, and determining whether it is time to create a frame when a current scheduling period has

ended, and Bonomi et al. refers merely to buffering frame cells until a last cell of the frame is received and transmitting a whole frame to a consistent set of branches. Neither reference is seen to send a plurality of cells *substantially aligned in time*, only after every cell from the plurality of cells *is received within a timeout period*.

Accordingly, Claim 41 is believed to be clearly patentable over Surazski et al., and Bonomi et al., whether considered separately or in combination.

If, despite the foregoing remarks, the Examiner still refuses to withdraw the rejection of Claim 41, she is respectfully requested to point out the specific portion of Surazski et al. or Bonomi et al. she believes teaches sending the plurality of cells substantially aligned in time, only after every cell is received within a timeout period, as recited in Claim 41.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and early passage to issue of the present application.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,



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